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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,802	07/17/2003	Hajime Yoshino	041465-5194	8997

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EXAMINER

FAULK, DEVONA E

ART UNIT	PAPER NUMBER
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2615

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/620,802	Applicant(s) YOSHINO, HAJIME	
	Examiner Devona E. Faulk	Art Unit 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1/22/2207.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, filed 1/22/2007, with respect to the rejection(s) of claim(s) 1-12 under 102(e) and 103(a) have been fully considered and are persuasive.

Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Velmer.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 9 and 10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 9 and 10 recite "a program, carried out by a computer ...". The specification discloses on page 17, lines 21-25 discloses the frequency characteristic adjustment apparatus according to the present embodiment may be configured into an apparatus dedicated to the adjustment processing or may be realized with a computer in which a program for the various functions is installed. The is not an adequate and enabling disclosure for a program carried out by a computer for adjusting the frequency characteristic as recited in claims 9 and 10.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claims 1-3,8,11,12** are rejected under 35 U.S.C. 102(b) as being anticipated by Velmer (US 5,515,446).

Regarding **claim 1**, Velmer discloses a frequency characteristic adjustment apparatus in which an inputted signal is subjected to adjustment for making a frequency characteristic of the signal agree with a target frequency characteristic (Figure 1), the apparatus comprising:

an estimation device configured to divide the inputted signal into a signal component falling into a one fixed-level band and one or more signal components falling into one or more variable-level bands and to estimate a relative level of the signal component in each variable-level band on the basis of a level of the signal component in the fixed-level band in the target frequency characteristic (22 channel accurate reproduction circuit, Figure 1; column 5, lines 45-column 6-line 5);

an adjustment device configured to adjust the level of the signal component of each variable-level band of the signal based on the estimated relative level of the signal

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component in each variable-level band (62,64,66,68,70,72,74, 76 limiters , Figure 1; column 6, lines 5-24); and

an output device configured to output the signal adjusted by the adjustment device (output circuit 24, Figure 1).

Regarding **claim 2**, Velmer discloses wherein the inputted signal is composed of an audio signal, and the estimation device is configured to assign, to the fixed-level band, a predetermined frequency band in which changes in sound pressure are sensitive to human audibility and to divide the inputted signal (abstract; Figure 1).

Regarding **claim 3**, Velmer discloses a frequency characteristic adjustment apparatus (Figure 1), comprising:

an adjustment device configured to divide an audio signal inputted from outside the apparatus into a signal component falling into one fixed-level band and one or more signal components falling into one or more variable-level bands and to adjust levels of the signal components in only the variable-level bands of the audio signal (22 channel accurate reproduction circuit, Figure 1; column 5, lines 45-column 6-line 5; 62,64,66,68,70,72,74, 76 limiters , Figure 1; column 6, lines 5-24);; and

an output device configured to output the audio signal adjusted by the adjustment device(output circuit 24, Figure 1).,

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wherein the adjustment device is configured to assign, to the fixed-level band, a predetermined frequency band in which changes in sound pressure are sensitive to human audibility and to divide the inputted audio signal(implicit).

Regarding **claim 8**, Velmer discloses further comprising a measuring-signal generation device configured to provide, to a reception device configured to receive the inputted signal, a measuring signal having a predetermined frequency band in which changes in sound pressure are sensitive to human audibility (input buffer reads on measuring signal generation; implicit the sound pressure is sensitive to human audibility).

Regarding **claim 11**, Velmer discloses a method of adjusting a frequency characteristic of an inputted signal so that the frequency characteristic of the signal agrees with a target frequency characteristic (Figure 1; column 5, line 29-column 6, line 64), the method comprising the steps of:

receiving the inputted signal (Figure 1);

dividing the received signal into a signal component falling into a one fixed-level band and one or more signal components falling into one or more variable-level bands (22 channel accurate reproduction circuit, Figure 1; column 5, lines 45-column 6line 5);

estimating a relative level of the signal component in each variable-level band on the basis of a level of the signal component in the fixed-level band in the target frequency characteristic (22 channel accurate reproduction circuit, Figure 1; column 5, lines 45-column 6line 5);

adjusting the level of the signal component of each variable-level band of the signal based on the estimated relative level of the signal component in each variable-level band; and outputting the signal adjusted by the adjustment step (62,64,66,68,70,72,74, 76 limiters , Figure 1; column 6, lines 5-24).

Regarding **claim 12**, Velmer discloses a method of adjusting a frequency characteristic of an inputted audio signal so that the frequency characteristic of the audio signal agrees with a target frequency characteristic (Figure 1; column 5, line 29-column 6, line 64), the method comprising the steps of:

receiving the inputted audio signal (Figure 1);

dividing the received audio signal into a signal component falling into one fixed-level band and one or more signal components falling into one or more variable-level bands, a predetermined frequency band in which changes in sound pressure are sensitive to human audibility being assigned to the fixed-level band (22 channel accurate reproduction circuit, Figure 1; column 5, lines 45-column 6line 5);

adjusting levels of the signal components in only the variable-level bands of the audio signal 62,64,66,68,70,72,74, 76 limiters , Figure 1; column 6, lines 5-24); and

outputting the audio signal adjusted by the adjustment step (output circuit 24, Figure 1)..

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 4-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Velmer (US 5,515,446) in view of Ouchi et al. (US 6,072,879).

Regarding **claim 4**, Velmer discloses a plurality of frequency level bands. Velmer fails to disclose wherein the predetermined frequency band assigned to the fixed-level band by the adjustment device includes a frequency of 1 kHz in the inputted signal. Ouchi discloses a sound field control device comprising equalizers 134 and 140 and that a fixed level band is centered at a frequency of 1kHz (column 11, lines 36-65). It would have been obvious to one of ordinary skill in the art to modify Velmer to use the range as taught by Ouchi for the purpose of equalization.

Regarding **claim 5**, Velmer discloses a plurality of frequency level bands. Velmer fails to disclose wherein the predetermined frequency band assigned to the fixed-level band by the adjustment device includes a predetermined frequency range from 500 Hz to 2 kHz in the inputted signal (Figure 1). Ouchi discloses a sound field control device comprising equalizers 134 and 140. The system uses the frequency range of 500 Hz to 2 KHz (column 11, lines 36-65). It would have been obvious to one of ordinary skill in

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the art to modify Velmer to use the range as taught by Ouchi for the purpose of equalization.

Regarding **claim 6**, Velmer discloses a plurality of frequency level bands. Velmer fails to disclose wherein the predetermined frequency band assigned to the fixed-level band by the adjustment device includes a predetermined frequency range included in a range of 500 Hz to 2 kHz in the inputted signal (Figure 1). Ouchi discloses a sound field control device comprising equalizers 134 and 140. The system uses the frequency range of 500 Hz to 2 KHz (column 11, lines 36-65). It would have been obvious to one of ordinary skill in the art to modify Velmer to use the range as taught by Ouchi for the purpose of equalization.

8. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Velmer (US 5,515,446) in view of Sasaki (US 6,996,240).

Regarding **claim 7**, Velmer discloses a level adjustment device and of equalization (column 17, lines 5-11'column 19, lines 29-37). Velmer fails to disclose a level adjustment device configured to adjust a level of the signal outputted from the output device so that the inputted signal and the signal outputted from the output device are made to be equal in signal levels to each other. Sasaki teaches of equalizing the sound source and the sound picked up by the microphone (column 3, lines 17-46). It would have been obvious to modify Velmer by adjusting a level of the signal outputted from the output device so that the inputted signal and signal outputted from the output device are made equal in signal levels in order to provide better equalization.

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9. **Claims 9 and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Velmer (US 5,515,446) in view of Berkovitz et al. (US 4,458,362).

Regarding **claim 9**, Velmer discloses adjusting a frequency characteristic of an inputted signal so that the frequency characteristic of the signal agrees with a target frequency characteristic (Figure 1; column 5, line 29-column 6, line 64), comprising the steps of:

receiving the inputted signal (Figure 1);

dividing the received signal into a signal component falling into a one fixed-level band and one or more signal components falling into one or more variable-level bands (22 channel accurate reproduction circuit, Figure 1; column 5, lines 45-column 6line 5);

estimating a relative level of the signal component in each variable-level band on the basis of a level of the signal component in the fixed-level band in the target frequency characteristic (22 channel accurate reproduction circuit, Figure 1; column 5, lines 45-column 6line 5);

adjusting the level of the signal component of each variable-level band of the signal based on the estimated relative level of the signal component in each variable-level band; and outputting the signal adjusted by the adjustment step (62,64,66,68,70,72,74, 76 limiters , Figure 1; column 6, lines 5-24).

Velmer fails to disclose a program carried out by a computer that adjusts the frequency characteristics. Berkovitz discloses a computer program that implements

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equalization (column 15, lines 33-40). It would have been obvious to modify Velmer to have a program carried out by a computer for adjusting a frequency characteristic to apply equalization quickly.

Regarding **claim 10**, Velmer discloses adjusting a frequency characteristic of an inputted audio signal so that the frequency characteristic of the audio signal agrees with a target frequency characteristic (Figure 1; column 5, line 29-column 6, line 64), comprising the steps of:

receiving the inputted audio signal (Figure 1);

dividing the received audio signal into a signal component falling into one fixed-level band and one or more signal components falling into one or more variable-level bands, a predetermined frequency band in which changes in sound pressure are sensitive to human audibility being assigned to the fixed-level band (22 channel accurate reproduction circuit, Figure 1; column 5, lines 45-column 6 line 5);

adjusting levels of the signal components in only the variable-level bands of the audio signal 62,64,66,68,70,72,74, 76 limiters , Figure 1; column 6, lines 5-24); and

outputting the audio signal adjusted by the adjustment step (output circuit 24, Figure 1).

Velmer fails to disclose a program carried out by a computer that adjusts the frequency characteristics. Berkovitz discloses a computer program that implements equalization (column 15, lines 33-40). It would have been obvious to modify Velmer to

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have a program carried out by a computer for adjusting a frequency characteristic to apply equalization quickly.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devona E. Faulk whose telephone number is 571-272-7515. The examiner can normally be reached on 8 am - 5 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848.

The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2615. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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